

**INDIAN BUREAU OF MINES
MINERALS DEVELOPEMMENT AND REGULATION DIVISION**

MCDR inspection REPORT

Bangalore regional office

Mine file No : KNT/BLR/FE/375/BNG

Mine code : 30KAR03069

- (i) Name of the Inspecting : **S006**) **SURESH PRASAD**
Officer and ID No.
- (ii) Designation : Regional Controller Mines
- (iii) Accompanying mine : Sri. M.R.K Bagawan, Mine Manager, Sri T. Ramakrishna,
Official with
Designation
- (iv) Date of Inspection : 25/08/2022
- (v) Prev.inspection date : 22/02/2022

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **SUBBARAYANAHALLI**
- (b) **Registration NO.** : **IBM/4369/2011**
- (c) **Category** : **A Fully Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **KARNATAKA**
- District : **BELLARY**
- Village : **SUBBARAYANAHALLI**
- Taluka : **SANDUR**
- Post office : **NANDIHALLI**
- Pin Code :
- FAX No. : **080-22213172,**
- E-mail : **info.mml@nic.in,mmliodsandur**
- Phone : **080-22278814 / 15 /16**
- (f) **Police Station** : **SANDUR**
- (g) **First opening date** : **01/01/1980**
- (h) **Weekly day of rest** : **SUN**
2. **Address for correspondance** : **M/s Karnataka State Minerals Corporation Limited**
Vaishnavi Farm House, Doulathpur Road
Iron ore Sector, Sandur-583 119 Karnataka
3. (a) **Lease Number** : **KAR0199**
- (b) **Lease area** : **80.93**
- (c) **Period of lease** : **50**
- (d) **Date of Expiry** : **12/04/2049**
4. **Mineral worked** : **IRON ORE** **Main**

5. Name and Address of the

Lessee : Karnataka State Minerals Corp. Ltd
 TTMC, A Block, 5th Floor,
 BMTc Building, K.H.Road,
 Shanthinagar Bengaluru
 BANGALORE KARNATAKA
 Phone:080-22278813-14-15-16
 FAX :080-22213172

Owner : Smt. R.Vinoth Priya , IAS, Managing Director
 Karnataka State Minerals
 Corporatio 'A' block, 5th
 Floor, Shanthinagar
 Bangalore BANGLORE URBAN
 KARNATAKA
 Phone: +91 9448456789,
 FAX : 08022213172

Agent : Mallikarjun Sarapur
 Karnataka State Minerals
 Corporatio 'A' block, 5th
 Floor, Shanthinagar
 Bengaluru-560027 BANGALORE
 KARNATAKA
 Phone: 08022278814/15/16, 8763673728
 FAX : 08022213172

Mining Engineer
 Name : Sharanandan,Full Time
 Qualification : BE IN MINING
 Appointment/ : 02/05/2019
 Termination date

Geologist
 Name : T. Ramakrishna,Full Time
 Qualification : MSc (Geology)
 Appointment/ : 01/07/2015
 Termination date

Manager
 Name : M.R.K.Bagawan
 Qualification : Dip. In Mining,
 Appointment/ : 24/07/2020
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Existing rule 11 MCDR1988	22/12/1992
		Existing rule 11 MCDR1988	29/11/1995
		Renewal under rule 22 MCR1960	20/12/2002
		Mining Scheme rule 12 MCDR1988	23/04/2007
		Modif.of approved Mining Plan	14/09/2010
		Modif.of approved Mining Plan	27/09/2013
		Modif.of approved Mining Plan	31/10/2014
		Mining Scheme rule 12 MCDR1988	16/04/2015
		Modif.approved Mining Scheme	04/03/2019
		MP review under 17(1) MCR 2016	12/02/2020

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	--	2Nos.	4Nos of bore holes are proposed in the year 2020-21. After that 2No's of core holes drilled in year 2021-22 total depth is 142.40Mtrs. Further in compliance to this office Violation Letter, Lessee has drilled 9 Nos of RC bore holes with total meterage of 786 Mtrs during the current year, 2022.
1b	Exploration over lease area for geological axis 1 or 2	G1- 71.69 Ha. G2 -1.37 Ha.	--	Out of 80.06 Ha, 73.06 Ha is explored for G axis 1 & 2. Remaining 7.00 Ha. Area which falls under temporary dump yard is to be explored.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	NIL	APC Drilling and Construction Pvt. Ltd., Tamil Nadu Total Expenditure : Rs.9,96,430/-(including GST)	Appears to be correct.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Not applicable	--	4Nos of bore holes are proposed in the year 2020-21. After that 2No's of core holes drilled in year 2021-22 total depth is 142.40Mtrs was completed. Further 9Nos RC Drilling are completed on 17.08.2022, with a depth of 786Mtrs

1e	Balance reserve as on 01/04/20	--	Proved :- 65.98 Million tones Probable :- 2.92 Million tones	--
1f	General remarks of inspecting officers on geology, exploration etc			Out of 80.06 Ha, 73.06 Ha is explored for G axis 1 & 2. Remaining 7.00 Ha. Area which falls under temporary dump yard is to be explored. Lessee has drilled additional 09 exploratory RCdrilling over 786m depth during August 2022 to determine the continuity of the ore body at depth.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	The propose location of development :- N-589.88 to 1747.53 E-805.06 to 1435.06Propose d working in between 936 m R.L. to 1011M.R.L.	The actual location of development :- Working between section 1-1' to J-J' N-595.13 to N-1740.19 E-809.56 to E-1429.62 actual workings in between 937 m R.L. to 1010 M.R.L	Benches are not developed at places. Hence, violation issued.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No separate benches in topsoil, overburden and mineral proposed	All the benches contains mineral & O/B OB-1 bench. Mineral-24	OB: 1 benches MB: 24 benches As per AR 2021-22. Separate benches maintained as proposed.
2c	Stripping ratio or ore to OB ratio	1:0.06	1:0.06	As reported by mine management.
2d	Quantity of topsoil generation in m3	No proposal	Nil	As the mining work is carried out in the already broken up area.

2e	Quantity of overburden generation in m3	39811	40118	As per AR-2021-22 it is 80236 tonnes.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Development works are reported to be carried out within the proposed grid limits However, Benches are not systematically maintained at places as per the approved proposals. Hence, violation issued.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	1 Pit	Working in one pit only In Meters L x W x D 1145 X620 X73	Approximate dimension of pitL x W x D 1050X500X192Mtrs. With 24 No's of benches in Mineral and 1 bench in OB.
3b	Quantity of ROM mineral production proposed	13,39,998 tonnes	13,11,240Tonnes	Monitoring Committee Revised production capacity in the year 2021-22 (1.34MTPA to 1.31MTPA) vide letter No.MC/R&R/2021-22, Dated:28.07.2021
3c	Recovery of sailable/usable mineral from ROM production	Proposed recovery of 95% in ore	95% recovery is achieved	5% is considered as waste/reject.
3d	Quantity of mineral reject generation	No proposal	Not applicable	No mineral reject proposed & generated
3e	Grade of mineral rejects generation and threshold value declared.	No proposal	Not applicable	+45% Fe grade ore is being utilized by blending with high grade as per market condition

3f	Quantity of sub grade mineral generation.	No proposal	Not applicable	No sub grade mineral was generated.
3g	Grade of sub grade mineral generation	No proposal	Not applicable	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method proposed for segregating from ROM	Mechanized method adopted for segregating from ROM	The segregating of ROM Ore is by mechanized method by engaging 5 Dry crushing & screening units of 250 Tph capacity.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal	--	NIL
3j	Provision of drilling and blasting in mineral benches	Drilling & Blasting proposed in mineral benches	Drilling & Blasting carried out as per proposal in hard strata encountered.	The formations are mostly soft in nature & drilling blasting is done only in hard stratum. Drilling & Blasting. By using Ammonium nitrate & slurry explosives in conjunction with Nonel detonators.
3k	Provision of mining machineries in mineral benches	1.Front end loaders= 7 No's 2. Excavators = 8No's 3.Tippers /Dumpers = 6No's 4.Screening/Crushing=5 No's 5.Water Tankers = 10No's 6.DTH Drill Unit = 1No. 7.RockBreaker = 1No.	1.Frontendloaders= 4No's 2.Excavators = 7No's 3.Tippers/Dumpers = 16No's 4.Screening/Crushing=4No's 5.Water Tankers = 8No's 6.DTH drill unit = 1No. 7.Rock Breaker = 1No.	

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Height of the Bench - 8Mtrs Width of the Bench - 10Mtrs	Bench height & width at places not maintained as per proposal	Bench height & width at places not maintained as per approved proposal. Violation issued.
3m	Total area covered under excavation/pits	49.49 Ha. Under excavation.	49.49 Ha. Under excavation.	As given in AR-2021-22.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.06	1:0.06	Bulk density : Ore 3.5 O/B 2
3o	Total area put in use under different heads at the end of year	Mining - 49.49 Ha., Waste dump - 5.39 Ha., Infrastructure & Road - 0.55 Ha., Green belt&Engineering measures - 3.71 Ha & Others - 23.52	Mining - 49.49 Ha., Waste dump - 2.79 Ha., Infrastructure & Road - 0.55Ha.Reclaimed/Rehabilitated& Un touched area - 27.23 Ha. (3.71Ha+23.52Ha=27.23Ha)	Lease area utilization as at the end of Plan Period. As per the AR for 2021-2022.
3p	Production of ROM mineral during the last five year period as applicable	2017-18 3.00 MTPA 2018-19 1.34 MTPA 2019-20 1.34 MTPA 2020-21 1.34 MTPA 2021-22 1.34MTPA	2017-18 1.68MTPA 2018-19 0.79MTPA 2019-20 0.342 MTPA 2020-21 1.34 MTPA 2021-22 1.31MTPA	For the FY 2021-22) Ore quantity is reduced as per the direction of monitoring committee on pro-rata basis. Production Proposals & achieved figures are as per the online submitted Annual Returns of the respective years.

3q General remarks of inspecting officers on method of mining etc.

The Mine is a fully mechanized mine and machineries as proposed are engaged for development, Production and segregation of ore. However at places the bench height and width as proposed is not maintained for which violation is issued.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping of O/B proposed	Separate dumping of O/B is carried out	Temporary Dumping of waste/OB is carried out at the proposed location by forming terraces. Topsoil generated in the past has been utilized in for plantation in the Mine. No Mineral reject or top soil generated during 2021-2022.
4b	Location of topsoil, OB and mineral reject dumps	Proposed Temporary O/BDump (PTD-1) N-589.88 to 1747.53& E- 805.06 to E-1435.06	Actual location of Temporary O/B Dump(PTD-1) N-591 to N-1736& E- 807 to E-1429	Temporary Dumping of waste is done within the earmarked area.All dumps are located within the ML.
4c	Number of dumps within lease area and outside of lease area	Dump Within lease area :- 4 No., Outside M.L.area :- Nil	Dump Within lease area :- 4 No., Outside M.L.area :- Nil	One Temporary active and 3 dead TD of waste dump in ML and no dumps outside the ML.

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	O/B Dump (PTD1) proposed within UPLNorth western side of the lease	O/B Dump (PTD-1) located within UPL North western side of the lease	Entire M.L. Area is mineralized and hence temporary dumping is carried out.
4e	Number of active and alive dumps.	1 Dump	1 Dump	1 Temporary Dump
4f	Number of dead dumps.	3	3	In active and not stabilized as all the dumps are temporary and within the UPL and is proposed to be rehandled.
4g	Number of dumps established.	Nil	Nil	--
4h	Whether Retaining wall or garland drain all along dumps are there.	YES	YES	Out of 128 Mts of Retaining wall proposed to be constructed during 21-22 only 61 mts of it is completed. Violation issued.
4i	Length of Retaining wall or garland drain all along dumps	128.00 Mts.	61.00 Mts.	It is reported that remaining proposed for 67Mtrs PTD-1 Tender under progress
4j	Number of settling ponds	No proposal	NIL	--

4k	Specific comments of inspecting officer on waste dump management	There is one active dump and 3 inactive dumps within the UPL. Since the entire lease area is mineralized, All these dumps are temporary in nature and proposed to be rehandled in future. However protective measures by constructing toe/retaining walls are done/in progress. Violation letter is issued for not completing the proposed length of Retaining wall.
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Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	No proposal	Nil	Pit is not matured for back filling as ore is not exhausted.
5b	Area under backfilling of mined out area	No proposal	Nil	Nil
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal	Nil	Topsoil generated is utilized in safety zone and dump for afforestation and sapling preparation.
5d	Total area fully reclaimed and rehabilitated	No proposal	Nil	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Since the Ore persists at depth, no pit or pit area is proposed for backfilling.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	To be Submitted before 1stJuly of every year.	Yes, Submitted	Submitted on 27/06/2022
6b	Area available for rehabilitation (ha) .	0.20	0.20	
6c	afforestation done (ha).	300	320	Plantation as proposed in NW part of ML is not done. Violation issued. Amount spent on watch and ward is as reported by the lessee
6d	No. of saplings planted during the year	--	--	
6e	Cumulative no .of plants	--	9562	
6f	Any other method of rehabilitation	No Proposal	NIL	
6g	Cost incurred on watch and care during the year	Amount of Rs.1,00,000/-	--	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No Proposal	NIL	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No Proposal	NIL	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No Proposal	NIL	

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal	NIL	
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No Proposal	NIL	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No Proposal	NIL	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No Proposal	NIL	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No Proposal	NIL	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Seasonwise environmental monitoring of ambient air quality, water quality, and noise& Soil samples proposed.	Season wise environmental monitoring of ambient air quality, water quality, noise & Soil samples carried out.Monitoring done by SUMS Techno Labs Pvt. Ltd., Hospet.	All environmental parameters were observed to be within the permissible limit.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	As proposed the afforestation is done. However, Plantation as proposed in NW part of ML is not done in the safety zone. PMCP activities are mostly carried out in accordance with the Approved Mining Plan except for 128 Mts of Retaining wall proposed to be constructed during 21-22 only 61 Mts of it is completed. Violation issued.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise mechanical sorting proposed within the lease area	Grade wise sorting done in the lease area	The Grade /size wise sorting of ROM is done by crushing and screening within the lease area dispatched after segregating.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical Method of grade wise mineral sorting proposed	Grade wise sorting done mechanically within the M.L.area as per proposal	The segregating of ROM Ore is by mechanized method by engaging 5 Dry crushing & screening units of 250 Tph capacity.
7c	Different grade of mineral sorted out at mines.	Yes Lumps & Fines 60 to 65% Fe	Yes Lumps & Fines 60 to 65% Fe	Grade wise sorting done as per buyers requirement.
7d	Any beneficiation process at mines	No proposal	--	No basification process carried out except dry crushing & screening.

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	No beneficiation is carried out. The ore is segregated grade wise and size wise into lumps and fines at mine site by engaging mobile crusher & screening units.
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	No generation of Top soil	Working with in the Brocken up area.
8b	Concurrent use or storage of topsoil	No proposal	Not applicable	No storage of Top Soil.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate temporary dump of O/B (PTD1) of proposed in North western part of the M.L. Area.	Separate O/B dump (PTD1) carried out in North western part of the M.L. Area.	Waste (OB) and BHQ generated in the past is dumped separately in the locations as proposed.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	NIL	Entire M.L.area is mineralized &no part of the mining pit is matured for back filling
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal	NIL	Protective& safety measures are being carried out for management of temporary dump (PTD1) However 128 Mts of Retaining wall proposed to be constructed during 21-22 only 61 Mts of it is completed. Violation issued.

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Plantation Proposed over 0.20 Ha with 320 saplings.	During 2021-22 Plantation done over 0.20 Ha with 320 saplings.	During the year 2021-22 Plantation done over 0.20 Ha with 320 saplings. About 9562 Nos sapling were planted so far cumulatively as reported.
8g	Survival rate	Not available	80%	As reported in AR 2021-22.
8h	Water sprinkling on roads to control airborne dust	Water sprinkling proposed on haul road to control airborne dust	Regular water sprinkling is done by water tanks to suppress the dust.	8 No's of 10 K.L. capacity of water tanker deployed in mine.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Systematic development of mine area to be further improved to maintain the aesthetic beauty within the mine. However, towards the office premises all efforts are made in its maintenance.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly Returns Submitted up to July-2022 Annual Returns submitted for FY 2021-22 (27.06.2022)	AR submitted on 27/06/2022	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Manager . Sri.M.R.K.Baga wan Mining Engineer : Sri.Sharananan da Geologist : Sri.T.Ramkrish na	Verified and found all the Statutory persons were present on the day of inspection.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Mining - 49.49 Ha., Waste dump - 2.79 Ha., Infrastructure & Road - 0.55 Ha., Reclaimed/Rehabilitated & Untouched area - 27.23 Ha., (3.71Ha+23.52Ha=27.23Ha)	As per AR for2021-22. Appears to be in order.	
9d	Scrutiny of Annual return on afforestation	Within M.L.Area- 320Nos.of saplings and 80% survival rate. 1200 No's Agaves were done	As per AR for2021-22. Appears to be in order.	However, Plantation as proposed in NW part of ML is not done in the safety zone. Violation Issued.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	NIL	NIL	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	All in Tonnes ROM Stock:- 34644.40 Opening stock- 1311240.00 Production- 1311240.00 Closing stock - 34644.40	As per AR for2021-22. Appears to be in order.	

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of Production- Rs.1497.70/Ton Lumps: Ex-mine Price- Rs. 3752/Ton 60-62% Fe Rs.6451/Ton 62-65% Fe Rs.5889/Ton 65% Fe Above Fines Rs. 5871/Ton 60-62% Fe Rs.4801/Ton 62-65% Fe	Sale Value Appears to be correct
9h	Scrutiny of Annual return on fixed assets	8.68Crores including land, industrial, plant-machinery & capitalized expenditure reported.	Value of Industrial Land is observed to be incorrect as entire land in forest area and no industrial structures found within portable weighbridge. Violation issued.
9k	Scrutiny of Annual return on mining machineries	1.Excavators= 07Nos. 2.Wheel loaders = 04Nos. 3.Water Tankers = 08Nos. 4.Tippers/Dump ers = 16Nos. 5.Crusher/Scre ening= 04Nos. 6. Drilling Machine= 1No. 7.Rock Breaker = 1No.	As per AR for2021-22. Appears to be in order.

Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed			Show cause position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
MCDR17	Rule 11(1)	22/09/2022			
MCDR17	Rule 34(1)	22/09/2022			
MCDR17	Rule 45(7)(a)	22/09/2022			

Date :

(SURESH PRASAD)

Indian Bureau of Mines